



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,150	02/06/2002	Akihiko Kuriyama	70840/56,950	7499

21874 7590 03/20/2006

EDWARDS & ANGELL, LLP
P.O. BOX 55874
BOSTON, MA 02205

EXAMINER

HERNANDEZ, NELSON D

ART UNIT	PAPER NUMBER
----------	--------------

2612

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/068,150	Applicant(s) KURIYAMA ET AL.	
	Examiner Nelson D. Hernandez	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☒ Claim(s) 2-9 and 11 is/are allowed.
 6) ☒ Claim(s) 1 and 10 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 21, 2006 has been entered.

Response to Amendment

2. The Examiner acknowledges the amendments on the claims filed on February 21, 2006. Claims 1, 2, 10 and 11 have been amended.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 2, 10 and 11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiguro, US Patent 6,157,018 in view of Kirtane, US Patent 1,653,575.

Regarding claim 1, Ishiguro discloses an imaging device (Figs. 1-6) comprising: a convex mirror (Fig. 1: 1) for reflecting first incident light representing an object, the convex mirror having a shape of solid of revolution (Conical shape); an optical member (See optical member in fig. 1, 2 and 6) for guiding the first incident light (Figs. 2: a₁ and 6: a₁) toward the convex mirror and guiding the reflected light toward the imaging mechanism (Figs. 2: 2 and 6: 2), having an attenuation section (Figs. 2: 4 and 6: 4) for the optical member attenuating second incident light (Figs. 2: a₂ and 6: a₂) which is incident on an outer circumferential surface (Figs: 2: 3 and 6: 3) of the optical member in an opposite direction to the first incident light passes through the optical member, is reflected by an inner circumferential surface of the optical member so as to be directed toward the convex rotational mirror and is superimposed on the first incident light, wherein the optical member is solid (Ishiguro discloses that the optical member is solid by disclosing that the cylinder (shown in figs. 1: 3 and 2: 3) is a composite of transparent glass or plastic, which are solid materials (See col. 2, line 65 – col. 3, line 2)) (Col. 2, line 51 – col. 4, line 35).

Ishiguro fails to teach that a space between the convex mirror and the optical member is filled with a light-transmissive material.

However, having the space between the optical member and the convex mirror filled with a light-transmissive material is well known in the art as taught in Kirtane.

Art Unit: 2612

Kirtane teaches a system for obtaining a panoramic picture comprising an optical system (Fig. 1: 1) for guiding the first incident light (Fig. 2: 29, 30, 33 and 34) toward the mirror (air cone shown in fig. 1: 3 and 2: 31) and guiding the reflected light towards a screen (fig. 1: 22) so as to produce a panoramic view of all the objects within the range of sight all around a submarine (Page 1, lines 1-26 and lines 35-80; page 2, lines 6-15 and lines 41-53). Having the optical system is advantageous because it increases the strength of the optical system against accidental ruptures.

Therefore, taking the combined teaching of Ishiguro in view of Kirtane as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiguro by having the space between the convex mirror and the optical member filled with a light-transmissive material. The motivation to do so would have been to reinforce the optical system to avoid accidental ruptures.

Regarding claim 10, Ishiguro discloses an imaging device (Figs. 1-6), comprising: a convex mirror (Fig. 1: 1) for reflecting first incident light representing an object, the convex mirror having a shape of solid of revolution; an imaging mechanism (Figs. 2: 2 and 6: 2) for taking a reflected image represented by light reflected by the convex mirror; and an optical member (See optical member in fig. 1, 2 and 6) for guiding the first incident light (Figs. 2: a_1 and 6: a_1) toward the convex mirror and guiding the reflected light toward the imaging mechanism, the optical member having a light-shielding section (Figs. 2: 4 and 6: 4) for shielding second incident light (Figs. 2: a_2 and 6: a_2) which is incident on an outer circumferential surface of the optical member in an opposite direction to the first incident light and passes through the optical member

Art Unit: 2612

toward an inner circumferential surface of the optical member, wherein the optical member is solid (Ishiguro discloses that the optical member is solid by disclosing that the cylinder (shown in figs. 1: 3 and 2: 3) is a composite of transparent glass or plastic, which are solid materials (See col. 2, line 65 – col. 3, line 2)) (Col. 2, line 51 – col. 4, line 35).

Ishiguro fails to teach that a space between the convex mirror and the optical member is filled with a light-transmissive material.

However, having the space between the optical member and the convex mirror filled with a light-transmissive material is well known in the art as taught in Kirtane. Kirtane teaches a system for obtaining a panoramic picture comprising an optical system (Fig. 1: 1) for guiding the first incident light (Fig. 2: 29, 30, 33 and 34) toward the mirror (air cone shown in fig. 1: 3 and 2: 31) and guiding the reflected light towards a screen (fig. 1: 22) so as to produce a panoramic view of all the objects within the range of sight all around a submarine (Page 1, lines 1-26 and lines 35-80; page 2, lines 6-15 and lines 41-53). Having the optical system is advantageous because it increases the strength of the optical system against accidental ruptures.

Therefore, taking the combined teaching of Ishiguro in view of Kirtane as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiguro by having the space between the convex mirror and the optical member filled with a light-transmissive material. The motivation to do so would have been to reinforce the optical system to avoid accidental ruptures.

Allowable Subject Matter

6. Claims 2-9 and 11 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2 and 11, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest, in combination with the existing elements of the present claim, that the attenuation section is a hole formed in the optical member, and the hole contains an air layer therein having a different light transmittance from that of the optical member so that the second incident light is attenuated by crossing the hole.

Contact

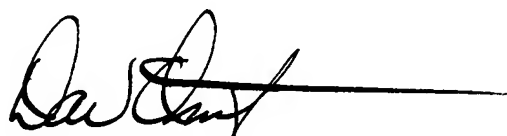
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernandez whose telephone number is (571) 272-7311. The examiner can normally be reached on 8:30 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nelson D. Hernandez
Examiner
Art Unit 2612

NDHH
March 14, 2006



DAVID OMETZ
SUPERVISORY PATENT EXAMINER